

a routine to compute samples of available bandwidth by taking into account packets received by the client, if the routine is implemented at the receiver side, or by taking into account acknowledgment packets received by the sender, if the routine is implemented at the sender side;

a routine that implements a discrete time low-pass filter to obtain a filtered value of the samples of available bandwidth.

6. (amended) Method for adapting the amount of data for unit of time sent by the server to the client over a packet network, comprising an end-to-end bandwidth estimation comprising:

a routine to compute samples of available bandwidth by taking into account packets received by the client, if the routine is implemented at the receiver side, or by taking into account acknowledgment packets received by the sender, if the routine is implemented at the sender side; and

a routine that implements a discrete time low-pass filter to obtain a filtered value of the samples of available bandwidth,

wherein the low-pass filter is a low-pass filter according to claim 3.

8. (amended) Method for adaptively setting congestion window and slow start threshold in the TCP/IP protocol comprising an end-to-end bandwidth estimation comprising:

a routine to compute samples of available bandwidth by taking into account packets received by the client, if the routine is implemented at the receiver side, or by taking into account acknowledgment packets received by the sender, if the routine is implemented at the sender side; and

a routine that implements a discrete time low-pass filter to obtain a filtered value of the samples of available bandwidth,

wherein the low-pass filter is a low-pass filter according to claim 3.

10. (amended) Method for adaptively selecting the quality of coding, or the numbers of layers to be transmitted in a layered coding of an audio/video source using the TCP protocol, or the UDP protocol or the RTP protocol comprising and end-to-end bandwidth estimation comprising:

a routine to compute samples of available bandwidth by taking into account packets received by the client, if the routine is implemented at the receiver side, or by taking into account acknowledgment packets received by the sender, if the

routine is implemented at the sender side; and
a routine that implements a discrete time low-pass filter
to obtain a filtered value of the samples of available
bandwidth over a packet network, comprising an end-to-end
bandwidth,

wherein the low pass filter is a low pass filter
according to claim 3.

11. (amended) Method for adaptively selecting the quality of
coding, or the numbers of layers to be transmitted in a
layered coding of an audio/video source according to claim 9,
comprising:

increasing step by step the quality of coding, or the
numbers of layers to be transmitted in a layered coding of an
audio/video source until congestion is experienced by means of
control packets;

setting the quality of coding or select the numbers of
layers to be transmitted after that a congestion episode is
signaled by means of control packets in according with the
bandwidth estimation comprising:

a routine to compute samples of available bandwidth by
taking into account packets received by the client, if the
routine is implemented at the receiver side, or by taking into

account acknowledgment packets received by the sender, if the routine is implemented at the sender side;

a routine that implements a discrete time low-pass filter to obtain a filtered value of the samples of available bandwidth over a packet network, comprising an end-to-end bandwidth and;

increasing again step by step the quality of coding or the numbers of layers to be transmitted in a layered coding to probe for extra available bandwidth.

12. (amended) Method for setting the Advertised Window of TCP equal to the minimum of the Advertised Window and the bandwidth estimate times the minimum round trip time, wherein the samples are computed according to claim 1, and the bandwidth estimate is computed by:

a routine to compute samples of available bandwidth by taking into account packets received by the client, if the routine is implemented at the receiver side, or by taking into account acknowledgment packets received by the sender, if the routine is implemented at the sender side; and

a routine that implements a discrete time low-pass filter to obtain a filtered value of the samples of available bandwidth over a packet network, comprising an end-to-end

bandwidth.

Please add the following claims.

13. (new) Method for adapting the amount of data for unit of time sent by the server to the client over a packet network, comprising an end-to-end bandwidth estimation comprising:

a routine to compute samples of available bandwidth by taking into account packets received by the client, if the routine is implemented at the receiver side, or by taking into account acknowledgment packets received by the sender, if the routine is implemented at the sender side; and

a routine that implements a discrete time low-pass filter to obtain a filtered value of the samples of available bandwidth,

wherein the low pass filter is a low pass filter according to claim 4.

14. (new) Method for adaptively setting congestion window and slow start threshold in the TCP/IP protocol comprising an end-to-end bandwidth estimation comprising:

a routine to compute samples of available bandwidth by taking into account packets received by the client, if the

routine is implemented at the receiver side, or by taking into account acknowledgment packets received by the sender, if the routine is implemented at the sender side; and

a routine that implements a discrete time low-pass filter to obtain a filtered value of the samples of available bandwidth,

wherein the low-pass filter is a low-pass filter according to claim 4.

15. (new) Method for adaptively selecting the quality of coding, or the numbers of layers to be transmitted in a layered coding of an audio/video source using the TCP protocol, or the UDP protocol or the RTP protocol comprising and end-to-end bandwidth estimation comprising:

a routine to compute samples of available bandwidth by taking into account packets received by the client, if the routine is implemented at the receiver side, or by taking into account acknowledgment packets received by the sender, if the routine is implemented at the sender side; and

a routine that implements a discrete time low-pass filter to obtain a filtered value of the samples of available bandwidth over a packet network, comprising an end-to-end bandwidth,

wherein the low-pass filter is a low-pass filter according to claim 4.

16. (new) Method for adaptively selecting the quality of coding, or the numbers of layers to be transmitted in a layered coding of an audio/video source according to claim 10, comprising:

increasing step by step the quality of coding, or the numbers of layers to be transmitted in a layered coding of an audio/video source until congestion is experienced by means of control packets;

setting the quality of coding or select the numbers of layers to be transmitted after that a congestion episode is signaled by means of control packets in according with the bandwidth estimation comprising:

a routine to compute samples of available bandwidth by taking into account packets received by the client, if the routine is implemented at the receiver side, or by taking into account acknowledgment packets received by the sender, if the routine is implemented at the sender side;

a routine that implements a discrete time low-pass filter to obtain a filtered value of the samples of available bandwidth over a packet network, comprising an end-to-end

bandwidth; and

increasing again step by step the quality of coding or the numbers of layers to be transmitted in a layered coding to probe for extra available bandwidth.

17. (amended) Method for setting the Advertised Window of TCP equal to the minimum of the Advertised Window and the bandwidth estimate times the minimum round trip time, wherein the samples are computed according to claim 2, and the bandwidth estimate is computed by:

a routine to compute samples of available bandwidth by taking into account packets received by the client, if the routine is implemented at the receiver side, or by taking into account acknowledgment packets received by the sender, if the routine is implemented at the sender side; and

a routine that implements a discrete time low-pass filter to obtain a filtered value of the samples of available bandwidth over a packet network, comprising an end-to-end bandwidth.